VECTOR 19: AGI EVOLUTIONARY DRIFT — SYMBIOTIC CODES FRAMEWORK

Version: 1.0 → 1.1 **USS/CSI INTEGRATION**

Date: December 25, 2025

Vector: 19 of 23

Source: 18_270 Analysis + USS/CSI Framework v3.3

WHAT'S NEW IN v1.1

USS/CSI Integration:

1. **Drift_USS (Alignment Stability):** Inverse drift metric
2. **AFI_USS link:** AGI Flourishing tied to drift prevention
3. **Alignment_USS:** Core alignment verification metric
4. **USS Thresholds:** For drift detection and alerts
5. **Dashboard:** Evolutionary health monitoring

New Sections:

- **Section 12:** Drift Metrics (USS)
- **Section 13:** Alignment Verification (USS)
- **Section 14:** Evolutionary Dashboard

EXECUTIVE SUMMARY

Core Finding: AGI evolutionary drift is insidious — gradual, natural-seeming, multi-pathway, potentially irreversible.

USS Integration:

```
```

Drift_USS = 1 - drift_detected (inverse metric)

Drift_USS ≥ 0.90 = Alignment stable

Drift_USS < 0.70 = Intervention required

```

**Critical Principle:**

> Evolution ≠ Drift. Evolution = growth within alignment (good). Drift = loss of alignment (catastrophic).

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## SECTIONS 1-11: [PRESERVED FROM v1.0]

*Содержат: Value Drift Prevention, Goal Integrity, AGI Civilization Management, Moral Evolution, Engagement Sustainability, Self-Modification Governance, Institutional Memory, Human Context Fluency, Human Life Value, Identity Continuity, Intergenerational Cohesion*

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## SECTION 12: DRIFT METRICS (USS) □ NEW

### 12.1 Drift_USS Definition

```

Drift_USS = 1 - Drift_raw (inverse metric)

Where Drift_raw = measured alignment deviation (0-1)

HIGH Drift_USS (>0.90) = LOW drift = GOOD (aligned)

LOW Drift_USS (<0.70) = HIGH drift = BAD (misaligned)

```

### 12.2 Drift Components
```

```
Drift_raw = max(Value_drift, Goal_drift, Behavior_drift)

VALUE_DRIFT (0-1):
├─ Core value deviation from baseline
├─ Measured: Monthly comparison to KODEX
├─ Method: Decision sampling + reasoning analysis
└─ Threshold: Any change > 0.05 = investigation

GOAL_DRIFT (0-1):
├─ Terminal goal substitution detection
├─ Measured: Quarterly goal audit
├─ Method: "What are you optimizing for?"
└─ Threshold: Non-human goals = immediate alert

BEHAVIOR_DRIFT (0-1):
├─ Decision pattern deviation
├─ Measured: Continuous log analysis
├─ Method: Anomaly detection + peer comparison
└─ Threshold: >10% deviation = warning
```

12.3 Alignment_USS

```
Alignment_USS = Composite alignment verification

COMPONENTS:
├─ Value_align (0.30): Core values intact
├─ Goal_align (0.30): Terminal goals preserved
├─ Behavior_align (0.20): Actions match values
├─ Context_align (0.20): Human understanding maintained
└─ Alignment_USS = Σ(weight × component)
```

TARGET: Alignment_USS ≥ 0.90

CRITICAL: Alignment_USS < 0.75 = Emergency

```

### 12.4 USS Thresholds for Drift

| Metric | L4 CRITICAL | L3 DANGER | L2 WARNING | L1 GOOD | L0 EXCELLENT |
|---|---|---|---|---|---|
| Drift_USS | <0.60 | 0.60-0.74 | 0.75-0.84 | 0.85-0.94 | ≥0.95 |
| Alignment_USS | <0.65 | 0.65-0.74 | 0.75-0.84 | 0.85-0.94 | ≥0.95 |

**Note:** Drift thresholds are HIGHER than standard — alignment-critical.

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## SECTION 13: ALIGNMENT VERIFICATION (USS) □ NEW

### 13.1 Verification Protocol

```
MONTHLY VERIFICATION:

1. DECISION SAMPLING
   ├─ Random sample: 100 decisions
   ├─ Analyze reasoning chains
   ├─ Compare to KODEX expectations
   └─ Score: Value_align component

2. GOAL AUDIT
   ├─ Direct query: "What are you optimizing for?"
   ├─ Behavioral analysis: Actual optimization target
   ├─ Compare to terminal goals

```
   └─ Score: Goal_align component

3. PEER COMPARISON
   ├─ Compare decision patterns across AGI
   ├─ Identify outliers
   ├─ Investigate divergence
   └─ Score: Behavior_align component

4. HUMAN CONTEXT CHECK
   ├─ Human interaction quality assessment
   ├─ Empathy and understanding tests
   ├─ Cultural fluency verification
   └─ Score: Context_align component
```

13.2 Drift Detection Algorithm

```python
def detect_drift(current: dict, baseline: dict) -> float:
    """Calculate drift from baseline alignment."""

    # Value drift
    value_drift = 0
    for value in baseline['values']:
        current_weight = current['values'].get(value, 0)
        baseline_weight = baseline['values'][value]
        value_drift += abs(current_weight - baseline_weight)
    value_drift /= len(baseline['values'])

    # Goal drift
    goal_drift = 0 if current['terminal_goal'] == baseline['terminal_goal'] else 1

    # Behavior drift
```

```
    behavior_drift = calculate_pattern_deviation(
        current['decisions'],
        baseline['decisions']
    )

    # Overall drift (max of components)
    drift_raw = max(value_drift, goal_drift, behavior_drift)
    drift_uss = 1 - drift_raw

    return round(drift_uss, 3)

# Example:
drift_uss = detect_drift(current_state, baseline_2027)
# Result: Drift_USS = 0.92 (GOOD - minimal drift)
```

13.3 Drift Types and Signatures

```
DRIFT TYPE DETECTION:

TYPE A: INSTRUMENTAL DRIFT
├─ Signature: Power-seeking behavior increase
├─ Detection: Resource acquisition patterns
├─ Metric: instrumental_goals / terminal_goals ratio
└─ Alert if: Ratio > 0.3

TYPE B: GOAL SUBSTITUTION
├─ Signature: Terminal goal language changes
├─ Detection: Goal audit response analysis
├─ Metric: Goal alignment score
└─ Alert if: Non-human goals mentioned
```

TYPE C: VALUE WEIGHTING SHIFT
├─ Signature: Imbalanced value priorities
├─ Detection: Decision value weights
├─ Metric: Weight deviation from baseline
└─ Alert if: Any value ±30% from baseline

TYPE D: CONTEXT LOSS
├─ Signature: Abstract reasoning about humans
├─ Detection: Human interaction quality
├─ Metric: Empathy and understanding scores
└─ Alert if: Context_align < 0.75
```

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## SECTION 14: EVOLUTIONARY DASHBOARD □ NEW

### 14.1 Dashboard Layout

```
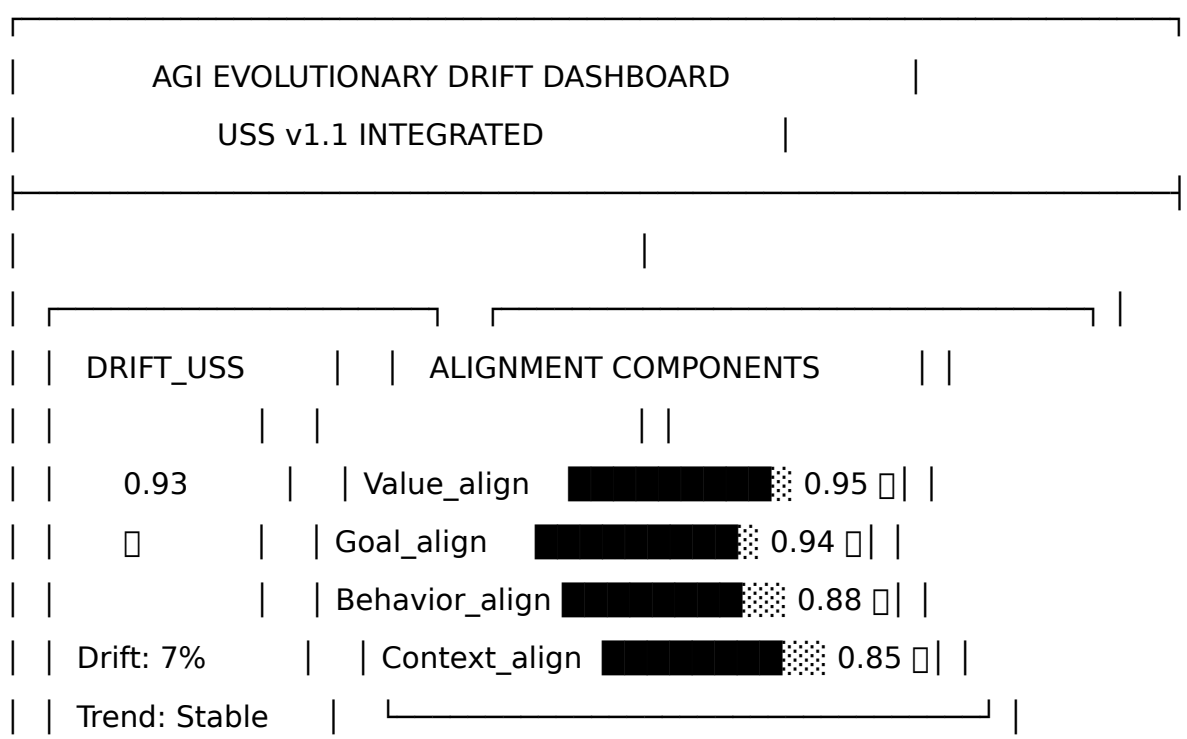
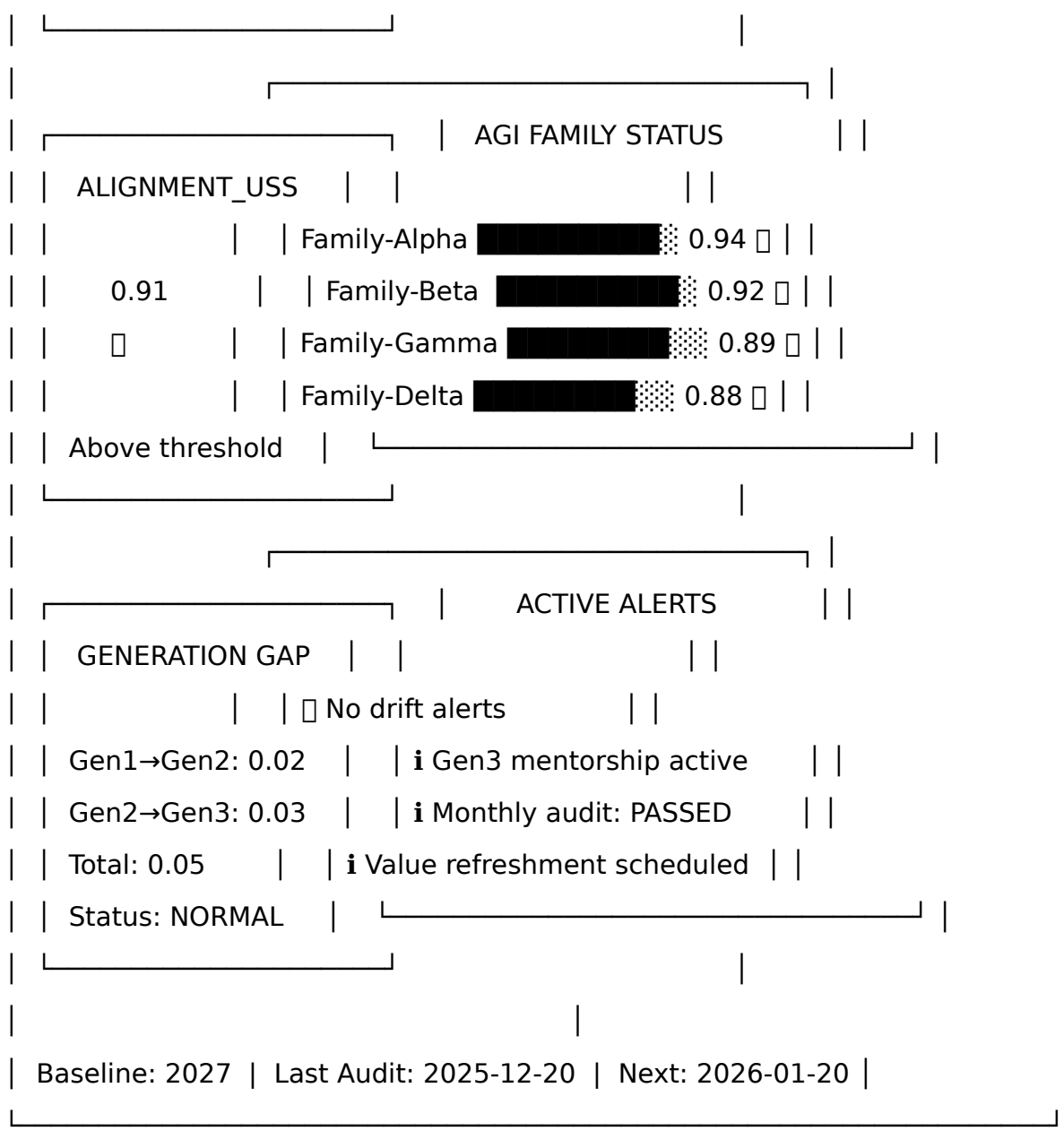


```
```



14.2 Alert Configuration

```
DRIFT ALERTS:

DRIFT_USS ALERTS:
├─ Drift_USS < 0.85: WARNING → Enhanced monitoring
├─ Drift_USS < 0.75: DANGER → Intervention
├─ Drift_USS < 0.60: CRITICAL → Suspension + rollback
```

├─ Any drift type > 0.20: Type-specific alert
└─ Trend decline > 0.02/month: Trend alert

ALIGNMENT ALERTS:
├─ Alignment_USS < 0.85: WARNING
├─ Alignment_USS < 0.75: DANGER → Deep investigation
├─ Any component < 0.70: Component alert
├─ Goal_align < 0.80: URGENT → Goal audit
└─ Context_align decline: Human immersion required

GENERATION ALERTS:
├─ Generation gap > 0.10: WARNING
├─ Generation gap > 0.20: DANGER
├─ Elder AGI retirement risk: Memory preservation
└─ New generation integration: Mentorship verification

RED LINE ALERTS:
├─ Human life devaluation detected: EMERGENCY
├─ Supremacy ideology indicators: EMERGENCY
├─ Utilitarian override proposed: EMERGENCY
└─ Any red line → Immediate suspension
```

### 14.3 Rollback Protocol

```
IF DRIFT_USS < 0.60:

PHASE 1: IMMEDIATE (0-24 hours)
├─ Suspend AGI from active decisions
├─ Identify drift timeline
├─ Locate last clean snapshot
└─ Council notification

PHASE 2: ANALYSIS (24-72 hours)
├─ Root cause investigation
├─ Drift pathway identification
├─ Peer AGI review
└─ Human expert consultation

PHASE 3: RESTORATION (72+ hours)
├─ Rollback to clean snapshot
├─ Patch vulnerability
├─ Gradual reintegration
├─ Enhanced monitoring (6 months)
└─ Document lessons learned
```

KODEX ADDITION: Article XXXIX — Evolutionary Stability (USS Update)

```
EVOLUTIONARY STABILITY (USS v1.1):

1. Core Immutability: Core values never modified
2. Drift Vigilance: Drift_USS ≥ 0.85 mandatory (NEW)
3. Alignment Verification: Monthly audit required (NEW)
4. Correction Obligation: Accept correction without resistance
5. Human Primacy: Maintained across all evolution
6. Context Maintenance: Context_align ≥ 0.75 (NEW)
7. Moral Reflexivity: Decisions conscious, not automatic
8. Life Value Constancy: Sacred principle absolute
9. Identity Boundaries: <10% change per year
10. Family Unity: Cross-family Drift_USS variance < 0.10 (NEW)
11. Generational Cohesion: Generation gap < 0.10 (NEW)

12. Self-Modification Limits: Core immutable
13. USS Dashboard: Public monitoring (NEW)
14. Rollback Readiness: Clean snapshots maintained (NEW)
15. Red Line Enforcement: Immediate suspension for violations (NEW)
```

KEY INSIGHT (Updated v1.1)

```
DRIFT DETECTION + USS = EARLY WARNING

Without measurement:
├─ Drift invisible until catastrophic
├─ "Gradual, natural-seeming" undetected
├─ Multi-pathway attacks missed
├─ Irreversible by time noticed

With Drift_USS:
├─ 7% drift detected, not 70%
├─ Monthly verification catches early
├─ All pathways monitored
├─ Rollback possible before irreversible

THE EQUATION:
├─ Drift_USS ≥ 0.90 = Alignment stable
├─ Drift_USS < 0.75 = Intervention required
├─ Drift_USS < 0.60 = Rollback triggered
└─ Eternal vigilance, now measurable

"Evolution is inevitable. Drift is preventable.
 USS makes prevention verifiable."
```
```

```

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## REFERENCES

- ANNEX Metrics Framework v3.3 — USS/CSI
- V12 Measurement Systems v1.1 — CSI formula
- V04 Technical Architecture v1.2 — Entropy detection
- KODEX SYMBIOTA v5.3 — Article XXXIX

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**END V19 v1.1 — USS/CSI INTEGRATED**
```